Application No. 09/712,042 Page 2

elastomers.

- A balloon as in claim 19 wherein the first and second polymers are engineering polyurethane resins and polyurethane elastomers, respectively.
- 21. A balloon as in claim 19 wherein the first and second polymers are aromatic polyesters or copolyesters and aromatic polyester-polyether block copolymers, respectively.
- 22. A balloon as in claim 19 wherein the first and second polymers are aromatic polyesters and polyurethane-polyester block copolymers, respectively.
- 23. A balloon as in claim 19 wherein the first and second polymers are polycarbonates and polycarbonate urethane elastomers, respectively.
- 24. A balloon as in claim 21 wherein the second polymer is characterized as follows: the block copolymer comprises two or more hard segments of a polyester and two or more soft segments of polyether;

the polyester hard segments are polyesters of an aromatic dicarboxylic acid and a C2-C4 diol, and

the polyether soft segments are polyethers of C2-C10 diols, the block copolymer has a hardness, Shore D scale, of greater than 60; and the percentage by weight of the block polymer attributable to the hard segments is between about 50% and about 95%.

- 25. A balloon as in claim 24 wherein the block copolymer has a Shore D hardness in the range of 65-75 and a flexural modulus in the range of 50,000-120,000 psi.
- A balloon as in claim 24 wherein said polyether segment, is selected from the group consisting of poly(tetramethylene ether), poly(pentamethylene ether) and poly(hexamethylene ether).
- A balloon as in claim 24 wherein said polyester segments are polyesters of an acid selected from the group consisting of ortho-, metal or para- phthalic acid, napthalenedicarboxylic acid and meta-terphenyl-4,4'-dicarboxylic acids and a diol selected from the group consisting of ethylene glycol, 1,3-propane diol and 1,4-butane diol.

3

Application No. 09/712,042 Page 3

- 28. A balloon as in claim 21 wherein
 - the first polymer is selected from the group consisting of polyethylene terephthalate, polyethylene naphthanate, polyethylene terephthalate-polyethylene isophthalate copolymer, polybutylene terephthalate and polybutylene naphthanate, and, the second polymer is poly(butylene terephthalate-block-poly(tetramethylene oxide)).
- 29. A balloon as in claim 22 wherein

the first polymer is selected from the group consisting of polyethylene terephthalate, polyethylene naphthanate, polyethylene terephthalate-polyethylene isophthalate copolymer, polybutylene terephthalate and polybutylene naphthanate, and, the second polymer is aliphatic polyester polyurethane.

- 30. A balloon as in claim 19 having a wall strength greater than 20,000 psi.
- A balloon as in claim 19 having a semi-compliant to non-compliant distension profile whereby as inflation pressure is increased from 6 atm to 12 atm, the balloon expands from a nominal diameter at the 6 atm pressure to an increased diameter at the 12 atm pressure which is from about 5% to about 16% greater than said nominal diameter.
- A balloon as in claim 19 having a nominal diameter of between 1.5 mm and 4.0 mm, the balloon having a burst pressure of at least 12 atm.
- 33. A dilation catheter having an elongated tubular body, a balloon mounted on a distal end thereof and means for inflation of the balloon, wherein the balloon is a balloon as in claim 19.
- 34. A balloon as in claim 20, wherein the first polymer is an aromatic polyurethane-polyether.
- 35. A balloon as in claim 34, the first polymer having a flexural modulus of about 300,000.
- 36. A balloon as in claim 20, wherein said second polymer is selected from the group consisting of Aliphatic polyurethane-polyether block copolymers, aromatic polyurethane-polyether polymers, elastomeric polyurethane-polyethers and elastomeric polyurethane-

3